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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,724	01/26/2004	Thomas Grupp	HOE-795	2534
20028	7590	11/03/2005	EXAMINER	
Lipsitz & McAllister, LLC 755 MAIN STREET MONROE, CT 06468			SMITH, RUTH S	
			ART UNIT	PAPER NUMBER
			3737	
DATE MAILED: 11/03/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/765,724

Applicant(s)

GRUPP ET AL.

Examiner

Ruth S. Smith

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 4 and 7-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 6 and 14-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Drawings

The drawings are objected to because in figures 1-4 the boxes are not properly labeled as to the elements that they represent. Reference numerals alone are insufficient. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

Claim 24 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not adequately disclose what wavelengths and intensities are chosen to induce mechanical and/or material changes in the implant.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1,2,5,16-23,25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dry (5,989,334) in view of Kobayashi et al and Boies et al. Dry discloses "smart" fiber-reinforced matrix materials for use in bone replacements and prosthetic devices (col. 12 lines 23-56, col. 20 lines 54-62). Although Dry discloses glass fibers (col. 9 lines 5-19) that may be woven (col. 9 lines 9-11) into a fabric (col. 13 lines 44-45, col. 14 lines 5-6), Dry does not explicitly disclose glass fiber fabrics embedded in the bone replacements or prosthetic devices. Kobayashi et al. demonstrates it is well known to use of glass fiber fabrics distributed throughout bone implants/prosthetics for their properties of biocompatibility, strength and conformability (Kobayashi et al., col. 3 lines 33-54 and col. 4 lines 17-25 and 58-63. It would have therefore been obvious at the time the invention was made to a person of ordinary skill in the art to use the fiber reinforcement materials of Dry in the form of glass fiber fabrics as taught by Kobayashi et al. for the above described reasons and as is well known in the art. In addition, it would have further been obvious at the time the invention was made to a person of ordinary skill in the art to pair, or couple, the glass fibers with optical sensor fibers as additionally taught by Dry (col. 9 lines 43-48) to "monitor" or "meter" physical parameters such as strain, temperature or displacement which are

particular to the integrity of the joint/prosthesis as is known in the art. Boies et al disclose monitoring implants using sensors. The implants are equipped with transceivers for transmitting or receiving information. The monitoring is provided using wireless devices to transmit the signals from the sensors coupled to the implant to a device positioned external to the patient. The signals transmitted are considered to be a form of radiation. It would have been obvious to one skilled in the art to have further modified Dry such that it transmits data to and from the implant in a wireless fashion. Such a modification involves a substitution of one known means for transmitting data to and from an implant for another. With regard to claims 17-20, the specific type of means used to wirelessly transmit the information would have been an obvious design choice of known equivalents in the art. With respect to claim 23, in the absence of any showing of criticality, the specific fibers used for the transport of data would have been an obvious design choice of known equivalents.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dry (5,989,334) in view of Kobayashi et al and Boies et al as applied to claim 1 above, and further in view of Belleville et al. The use of optical strain sensors for detecting a physical property of a device is old and well known. An example of such are seen in Belleville et al. Belleville et al disclose providing a measuring devices that feeds electromagnetic radiation into the sensor element and determining physical properties of the sensor element from the detected radiation. It would have been obvious to one skilled in the art to have further modified Dry such that the optical sensors used are provided electromagnetic radiation which allows physical properties of the sensor to be detected. Such a modification merely involves the substitution of one known type of optical sensor for another.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dry (5,989,334) in view of Kobayashi et al and Boies et al as applied to claim 5 above, and further in view of Sirkis et al. The use of fiber optic strain sensors that comprise Bragg gratings are old and well known. An example of such is seen in Sirkis et al. It would

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have been obvious to one skilled in the art to have further modified Dry such that the optical sensors used include Bragg gratings. Such a modification merely involves the substitution of one known type of optical sensor for another.

Claims 14,15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dry (5,989,334) in view of Kobayashi et al and Sugai et al. Dry discloses "smart" fiber-reinforced matrix materials for use in bone replacements and prosthetic devices (col. 12 lines 23-56, col. 20 lines 54-62). Although Dry discloses glass fibers (col. 9 lines 5-19) that may be woven (col. 9 lines 9-11) into a fabric (col. 13 lines 44-45, col. 14 lines 5-6), Dry does not explicitly disclose glass fiber fabrics embedded in the bone replacements or prosthetic devices. Kobayashi et al. demonstrates it is well known to use of glass fiber fabrics distributed throughout bone implants/prosthetics for their properties of biocompatibility, strength and conformability (Kobayashi et al., col. 3 lines 33-54 and col. 4 lines 17-25 and 58-63. It would have therefore been obvious at the time the invention was made to a person of ordinary skill in the art to use the fiber reinforcement materials of Dry in the form of glass fiber fabrics as taught by Kobayashi et al. for the above described reasons and as is well known in the art. In addition, it would have further been obvious at the time the invention was made to a person of ordinary skill in the art to pair, or couple, the glass fibers with optical sensor fibers as additionally taught by Dry (col. 9 lines 43-48) to "monitor" or "meter" physical parameters such as strain, temperature or displacement which are particular to the integrity of the joint/prosthesis as is known in the art. Sugai et al disclose an optical sensor wherein the optical fiber is directly connected to the measuring device. It would have been obvious to one skilled in the art to have further modified Dry such that the sensor is directly connected to the measuring device. Such a modification merely involves the substitution of one well known type of connection for transmitting optical signals for another. With regard to claim 15, the measuring device is capable of being implanted in a body.

Response to Arguments

Applicant's arguments with respect to claims 1-3,5,6,14-23,25 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed July 15, 2005 have been fully considered but they are not persuasive. Applicant fails to provide any examples of wavelengths which are defined by the limitation set forth in claim 24.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ruth S. Smith whose telephone number is 571-272-4745. The examiner can normally be reached on M-F 7:30 AM-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Ruth S. Smith', with a stylized, cursive script.

Ruth S. Smith
Primary Examiner
Art Unit 3737

RSS